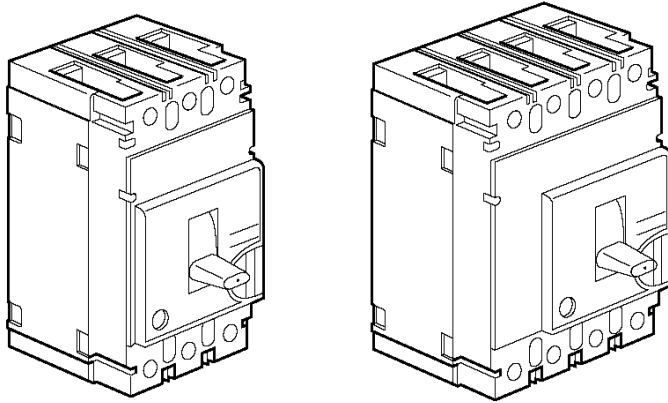


# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

Reference(s) : 253 27/ 28/ 29/ 30/ 31/ 32/ 40/ 41/ 42/ 44/ 45/ 46/ 47/ 48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/ 82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99



#### CONTENTS

CONTENTS	PAGES
1. USE	1
2. RANGE	1
3. DIMENSIONS	1
3. DIMENSIONS (NEXT)	2
4. OVERVIEW	2
5. CONNECTION	2
6. ELECTRICAL AND MECHANICAL CHARACTERISTICS	2
7. CONFORMITY	3
8. EQUIPMENTS AND ACCESSORIES	4
9. CURVES AND TABLES	6

### 1. USE

DPX "moulded case" offers optimal solutions to answer protection requirements of tertiary and industrial installations.

### 2. RANGE

DPX

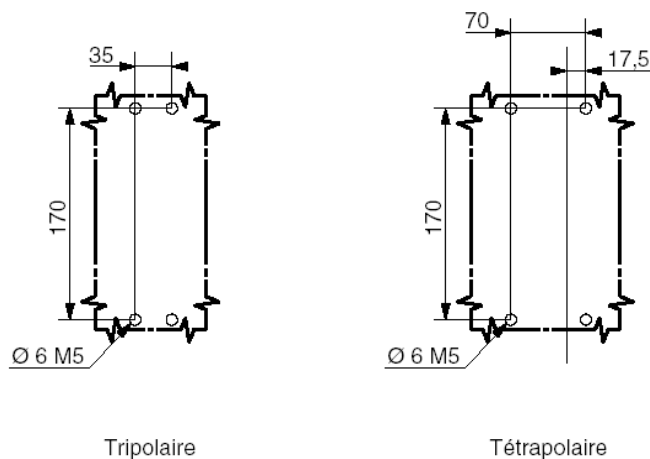
Current	3P			3P+N/2			4P		
	36	70	100	36	70	100	36	70	100
25	253 27	253 51					253 44	253 68	
40	253 28	253 52					253 45	253 69	
63	253 29	253 53					253 46	253 70	
100	253 30	253 54	253 80	253 40	253 64	253 86	253 47	253 71	253 89
160	253 31	253 55	253 81	253 41	253 65	253 87	253 48	253 72	253 90
250	253 32	253 56	253 82	253 42	253 66	253 88	253 49	253 73	253 91

DPX-I

Current	3P	4P
	250	253 98

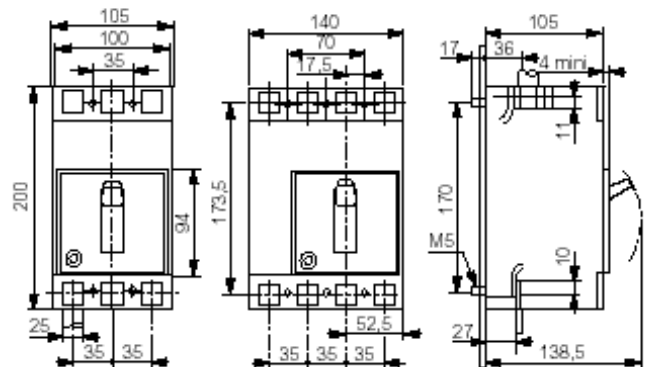
### 3. DIMENSIONS

Implantation

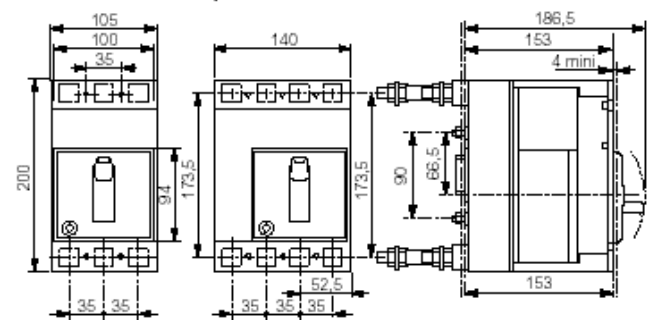


### 3. DIMENSIONS (NEXT)

Version fixe prises avant



Version extractible prises arrière



# DPX 250

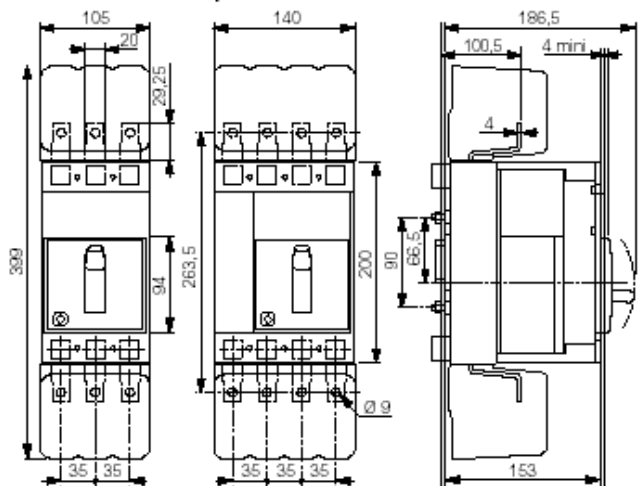
## Thermal magnetic and trip-free switches

### DPX-I 250

Reference(s) : 253 27/ 28/ 29/ 30/ 31/ 32/ 40/ 41/ 42/ 44/ 45/ 46/ 47/ 48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/ 82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

### 3. DIMENSIONS (NEXT)

#### Version extractible prises avant



#### Version débrochable prises arrière

Tiges filetées

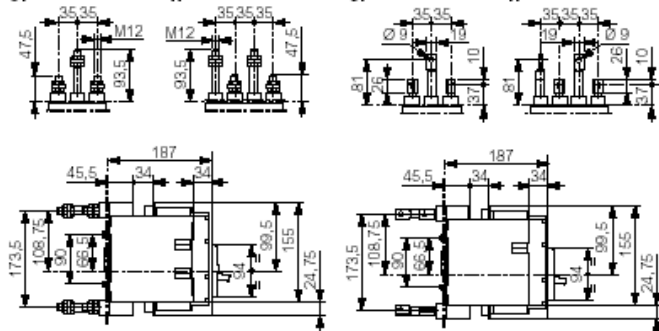
3P

4P

Méplat

3P

4P



### 4. OVERVIEW

#### 4.1 SUPPLIED

Connection plates for bars :

- Width 25 mm max

Seals for adjustment (supplied)

#### 4.2 Mounting possibility

On plate :

- Vertical
- Horizontal
- Supply inverter type

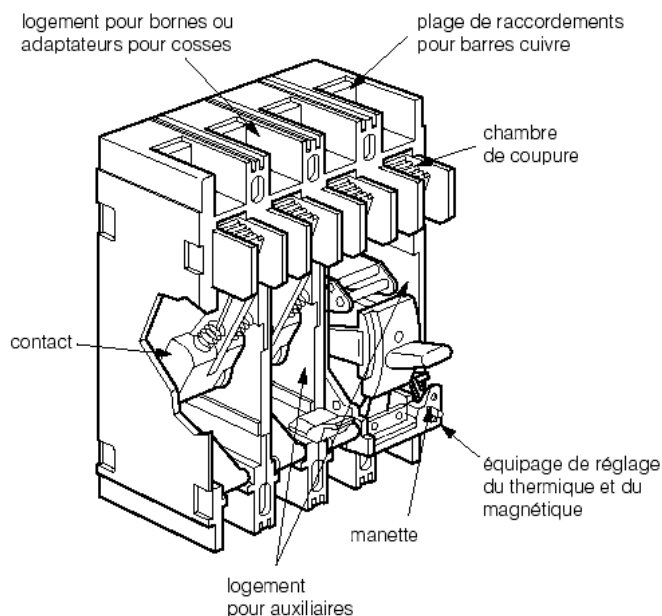
### 5. CONNECTION

See table B.

### 6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit breaker	DPX 250 H/L
Uninterrupted nominal current I <sub>n</sub> (A)	250
Isolated voltage U <sub>i</sub> (V a.c.)	690
Maximum rated operating voltage U <sub>e</sub> (V a.c./d.c.)	690/250
Rated impulse withstand voltage U <sub>imp</sub> (kV)	8
Nominal frequency (Hz)	50-60
Operating temperature (°C)	-25÷70
Endurance electrical / mechanical	8.000/20.000
Category of use	A
Type of trip	thermal-magnetic
Thermal adjustment	0.64÷1 I <sub>n</sub>
Magnetic adjustment	3.5÷10 I <sub>n</sub>
Dimensions (w×h×d) (mm)	105×200×105 (3P) 140×200×105 (4P)
Weight (kg)	2.5 (3P) – 3.7 (4P)
Switches	DPX-I 250
Uninterrupted nominal current I <sub>n</sub> (A)	250
Rated closing capacity on short-circuit I <sub>cm</sub> (kA)	4,3
Nominal current of use I <sub>e</sub> (A)	200-250 - AC23A (690V a.c.) 200-250 - DC23A (250V d.c.)
Short-time resistive current I <sub>cw</sub> (kA) for 1s	2,50
Isolated voltage U <sub>i</sub> (V a.c.)	690
Maximum rated operating voltage U <sub>e</sub> (V a.c./d.c.)	690/250
Rated impulse withstand voltage U <sub>imp</sub> (kV)	8
Nominal frequency (Hz)	50-60
Operating temperature (°C)	-25÷70
Endurance electrical / mechanical	8.000/20.000
Dimensions (w×h×d) (mm)	105×200×105 (3P) 140×200×105 (4P)
Weight (kg)	2,3 (3P) – 3,5 (4P)

#### 6.1 Main pieces constituting the circuit breaker



# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

Reference(s) : 253 27/ 28/ 29/ 30/ 31/ 32/ 40/ 41/ 42/ 44/ 45/ 46/ 47/ 48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/ 82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

#### 6.2 Breaking capacity (kA)

Breaking capacity Icu and Ics in AC (kA)						
	Ue	DPX	H	L	DPX-I 250	
Icu (kA)	230V	60	100	170	-	
	400V	36	70	100	-	
	440V	30	60	70	-	
	500V	25	40	45	-	
	600V	20	25	28	-	
	690V	16	20	22	-	
Ics (%Icu)	-	100	75	50	-	
Rated making capacity under short-circuit Icm (kA)						
Icm (kA)	400V	75,6	154	220	3,6	4,3

#### 6.3 Nominal current (In) at 40 °C (A)

In (A)	Assigned current trip		magnetic	
	thermal	N	L1-L2-L3	N
25	25	25	90÷250	90÷250
40	40	40	140÷400	140÷400
63	63	63	220÷630	220÷630
100	100	63	350÷1000	220÷630
160	160	100	560÷1600	350÷1000
250	250	160	900÷2500	560÷1600

#### 6.4 Power losses per pole under In

In (A)	Power losses per pole (W)					
	25	40	63	100	160	250
DPX 250	3	3,2	5,56	7,5	14,8	15,63
Eath leakage	0,02	0,05	0,12	0,3	0,77	1,88
Kit plug-in	0,08	0,19	0,48	1,2	3,07	7,5

Total power losses is the sum of the different accessories value instal

#### 6.5 Functioning in particular conditions

##### 6.5.1 Temperature

In (A)	Temperature derating Ta (°C)						
	10	20	30	40	50	60	70
25	21÷33	19÷30	18÷28	16÷25	14÷23	13÷20	12÷18
40	33÷52	30÷48	28÷44	25÷40	23÷36	20÷32	18÷28
63	52÷81	48÷75	44÷69	40÷63	36÷57	32÷50	28÷43
100	81÷127	75÷118	70÷109	63÷100	58÷91	52÷82	48÷73
160	131÷205	122÷190	112÷175	100÷160	93÷145	83÷130	73÷115
250	198÷310	185÷290	173÷270	160÷250	147÷230	130÷210	115÷19

For derating temperature with other configuration, see table A.

##### 6.5.2 Altitude

Altitude			
Altitude (mt)	2000	3000	4000
Ue (V)	690 V	600 V	480 V
In (A) (Ta=40°C)	In	0,96 x In	0,93 x In

##### 6.5.3 Use in 400 Hz

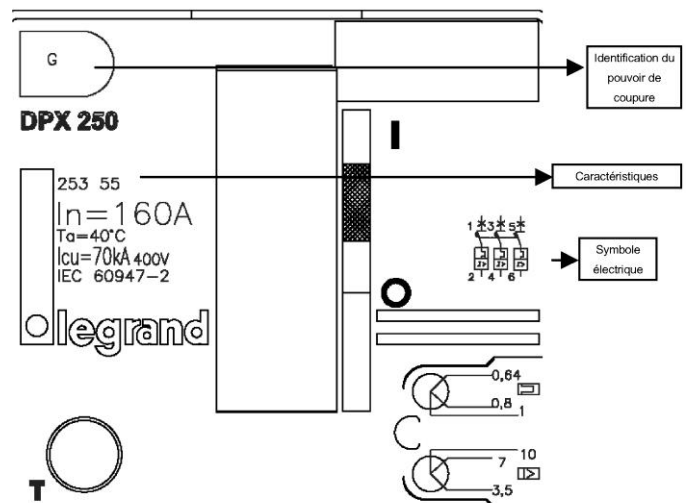
See table C.

#### 7. CONFORMITY

IEC 60 947-2  
EN 60947-2  
(for switches DPX-I EN 60947-3)  
NF C  
VDE  
BS  
UNE  
CEI

#### 7.1 MARKING

IEC 60947-2 cat.A EN 60947-2 CEI UNE BS VDE UTE	DPX250 Uimp8kV Ue[V] Uf=690V	Uimp8kV Ics=750Icu Icu[kA]	~ 50-60 Hz 230 400 440 480/500 690 250 100 70 60 40 20 40	Performances électrique
MADE IN ITALY				Références normatives



" Tropical climate " :

- execution II (all climates) according to guide UTE C63100

# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

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## 8. EQUIPMENTS AND ACCESSORIES

### 8.1 Earth leakage modules:

Earth leakage characteristics for DPX 250			
	Standard	with LED	with Ig
Type	A-S	A-S	A-S
Uninterrupted nominal current Iu (A)	250	250	250
Rated earth leakage current I <sub>dn</sub> (A)	0.03÷3	0.03÷3	0.03÷3
Rated isolated voltage U <sub>i</sub> (V.a.c.)	500	500	500
Rated operating voltage U <sub>e</sub> (V.a.c.) (50-	500	500	500
Operating voltage (V.a.c.) (50-60Hz)	230÷500	110÷500	110÷500
Nominal frequency (Hz)	50-60	50-60	50-60
Operating temperature (°C)	-25÷70	-25÷70	-25÷70
Trip	electronic	electronic	electronic
Earth leakage protection adjustment I <sub>dn</sub> (A)	0.03÷1	0.03÷2	-
Earth leakage time adjustment (s)	0-03-1-1	0-03-1-2	-
Earth leakage breaking capacity I <sub>dm</sub> (%I <sub>cu</sub> )	-	-	10÷100
Mounted side-by-side	-	-	0÷3
Montage underneath	60	60	60
50% Earth fault detection contact I <sub>dn</sub>	no	no	no
Clip on rail DIN35	yes	yes	yes
Dimensions moulded case (wxhxd) (mm)	no	yes	yes
Weight (kg)	140x108x105 (undemeath)	140x108x105 (undemeath)	140x108x105 (undemeath)
	1.4 (undemeath)	1.4 (undemeath)	1.4 (undemeath)

( Power losses, see table 6.4)

#### Standard

160A	4P	ref. 260 51
250A	3P	ref. 260 54
	4P	ref. 260 55

#### LED version

160A	4P	ref. 260 53
250A	4P	ref. 260 57

### 8.2 Releases :

- shunt releases (Power consumption= 300 VA) with voltage:
  - 24 V ~ et = ref. 261 64
  - 48 V ~ et = ref. 261 65
  - 110 V ~ et = ref. 261 66
  - 230 V ~ et = ref. 261 67
  - 400 V ~ et = ref. 261 68
- undervoltage releases (Power consumption = 5 VA) with voltage:
  - 24 V = ref. 261 80
  - 24 V ~ ref. 261 81
  - 48 V = ref. 261 82
  - 110 V ~ ref. 261 86
  - 230 V ~ ref. 261 83
  - 400 V ~ ref. 261 84
- time-lag undervoltage releases:

#### Time-lag modules :

24V ~/=	ref. 261 92
230V ~	ref. 261 90
400V ~	ref. 261 91
Universal Release:	ref. 261 85

### 8.3 Auxiliary contact

Changeover switch 3 A – 240 V a.c. ref. 261 60  
For signalling the state of the contacts or opening of the DPX on a fault:

- Auxiliary contact (standard)
- Fault signal
- “Early” auxiliary contact

Auxiliary contact		
Nominal voltage (Vn)	(V.a.c/d.c.)	24 to 250
Intensity (A)	24 Vd.c.	5
	48 Vd.c.	1,7
	110 Vd.c.	0,5
	230 Vd.c.	0,25
	110 Va.c.	4
	230/250 Va.c.	3

(1 Fault signal and 2 Auxiliary contact max)

### 8.4 Rotary handles :

#### Direct on DPX

- Standard (black) ref. 262 22
- For emergency use (red / yellow) Adapting on standard handle ref. 262 24

#### Vari-deph handle IP55

- Standard (black) ref. 262 79
- For emergency use (red / yellow) Adapting on standard handle ref. 262 80

#### Locking accessories

- Eurolocks for vari-deph handle ref. 262 92
- Profalux for vari-deph handle ref. 262 93
- Ronis for vari-deph handle ref. 262 94
- Eurolocks for direct handle ref. 262 25

### 8.5 Motor-driven handles :

#### Front operated

- Voltage 24 V ~ et = ref. 261 30
- Voltage 48 V ~ et = ref. 261 31
- Voltage 230 V ~ ref. 261 34

#### Locking accessories

- Ronis ref. 261 59
- Profalux ref. 261 58

### 8.6 Mechanical accessories :

#### Insulated shields

- Set of 3 ref. 262 30

#### Sealable terminal shields

- Set of 2 3P ref. 262 26
- Set of 2 4P ref. 262 27

#### Padlocks

- Accessories for locking in open position ref. 262 21

### 8.7 Connection's accessories:

#### Cage terminals

- Set of 4 for cable (cuivre/Alu) max 185mm<sup>2</sup> (rigid) or max 150mm<sup>2</sup> (flexible) ref. 262 35

- Extended front terminals Set of 4 ref. 262 32

# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

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48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/  
82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

#### Distribution terminal 250A

4 outputs 25mm<sup>2</sup> flexible and 2 outputs 25mm<sup>2</sup> flexible ref. 048 68

#### Spreaders

- Set of 3 (incoming or outgoing 3P) ref. 262 33
- Set of 4 (incoming or outgoing 4P) ref. 262 34

#### Rear terminals

(use to connect fixed version with front terminals into fixed version with rear terminal)

- Set of rear terminals, incoming or outgoing
  - 3P ref. 263 31
  - 4P ref. 263 32
- Set of flat rear terminals, incoming or outgoing
  - 3P ref. 265 27
  - 4P ref. 265 28

### 8.8 Plug-in version

(A plug-in is a DPX fitted with tulip contacts mounted on a base)

#### Tulip contact

- Set of tulip contact (supplied with an incoming/outgoing protective cover)
  - 3P ref. 265 29
  - 4P ref. 265 30

#### Bases

- front terminal mounting base
  - 3P ref. 265 31
  - 4P ref. 265 32
- rear terminal mounting base with threaded rod
  - 3P ref. 265 33
  - 4P ref. 265 34
- flat rear terminal mounting base
  - 3P ref. 265 35
  - 4P ref. 265 36

#### Bases with earth leakage underneath mounting (4P)

- front terminal mounting base ref. 265 37
- rear terminal mounting base with threaded rod ref. 265 38
- Flat rear terminal mounting base ref. 265 39

#### Accessories

- Set of 2 extractor handle ref. 263 43
- Set of connectors (6-pin) ref. 098 19
- Set of connectors (8-pin) ref. 263 99
- Signalling contact (plugged-in / drawn-out) ref. 265 74

### 8.9 Draw-out version

(A DPX draw-out version is a plug-in DPX fitted with a "Debro-lift" mechanism which can be used to withdraw the DPX while keeping it on its base)

#### «Débro-lift » mechanism

- For DPX base only
  - 3P ref. 265 45
  - 4P ref. 265 46
- For DPX base with earth leakage module
  - 4P ref. 265 47

#### Key lock for « Debro-lift » mechanism

- 1 key Ronis for DPX only
  - 3P ref. 265 76
  - 4P ref. 263 48
- 1 key Ronis for motorised DPX or with rotary handle
  - 3P ref. 265 78
  - 4P ref. 265 77

#### Accessories for « Debro-lift » mechanism

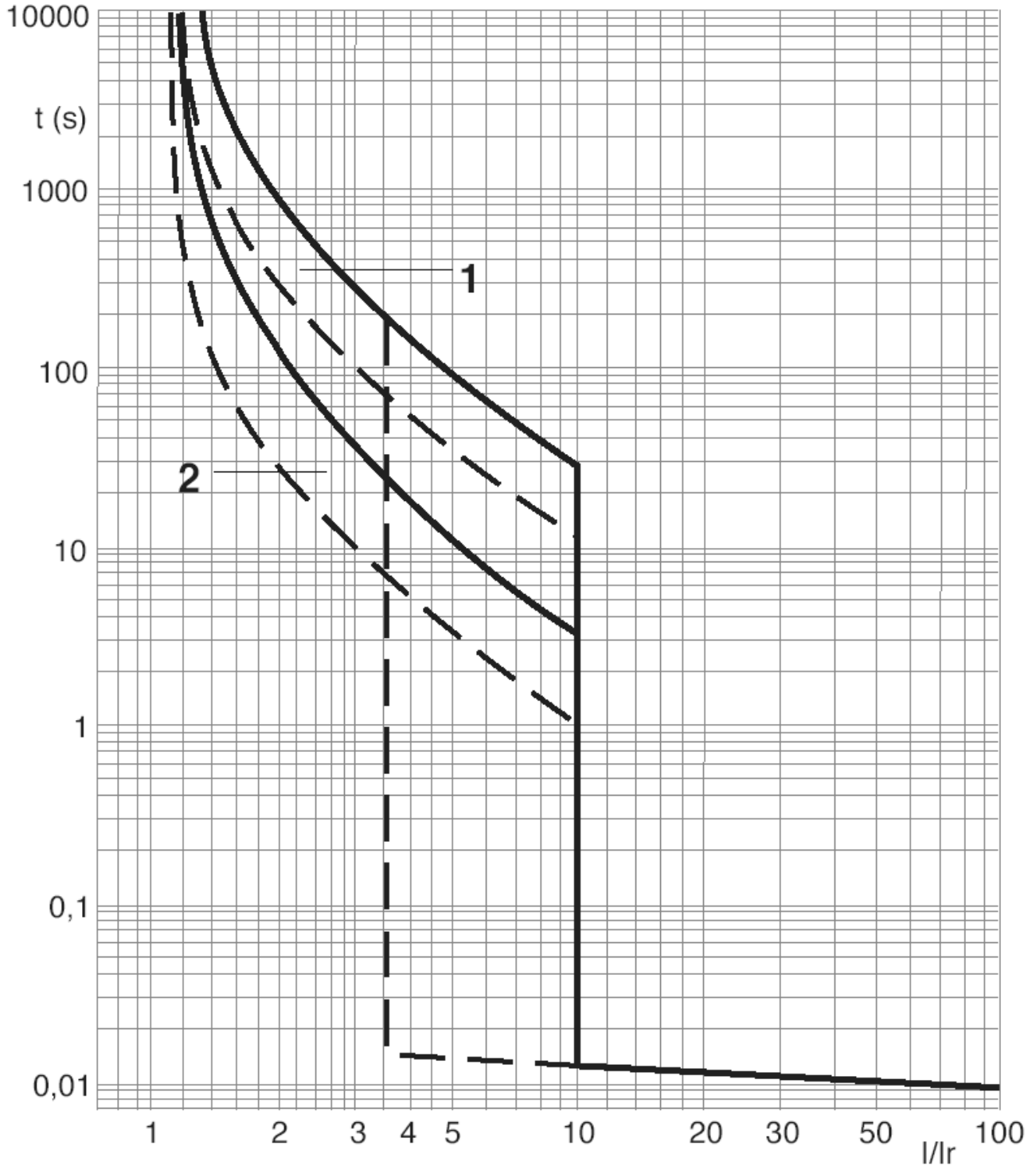
- Isolated handle for drawing-out ref. 265 75
- Signalling contact (plugged-in / drawn-out) ref. 265 74

**DPX 250**  
**Thermal magnetic and trip-free switches**  
**DPX-I 250**

Reference(s) : 253 27/ 28/ 29/ 30/ 31/ 32/ 40/ 41/ 42/ 44/ 45/ 46/ 47/  
 48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/  
 82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

**9. CURVES**

**9.1 OPERATING CURVE**



1 : Cold thermal tripping zone  
 2 : Hot thermal tripping zone

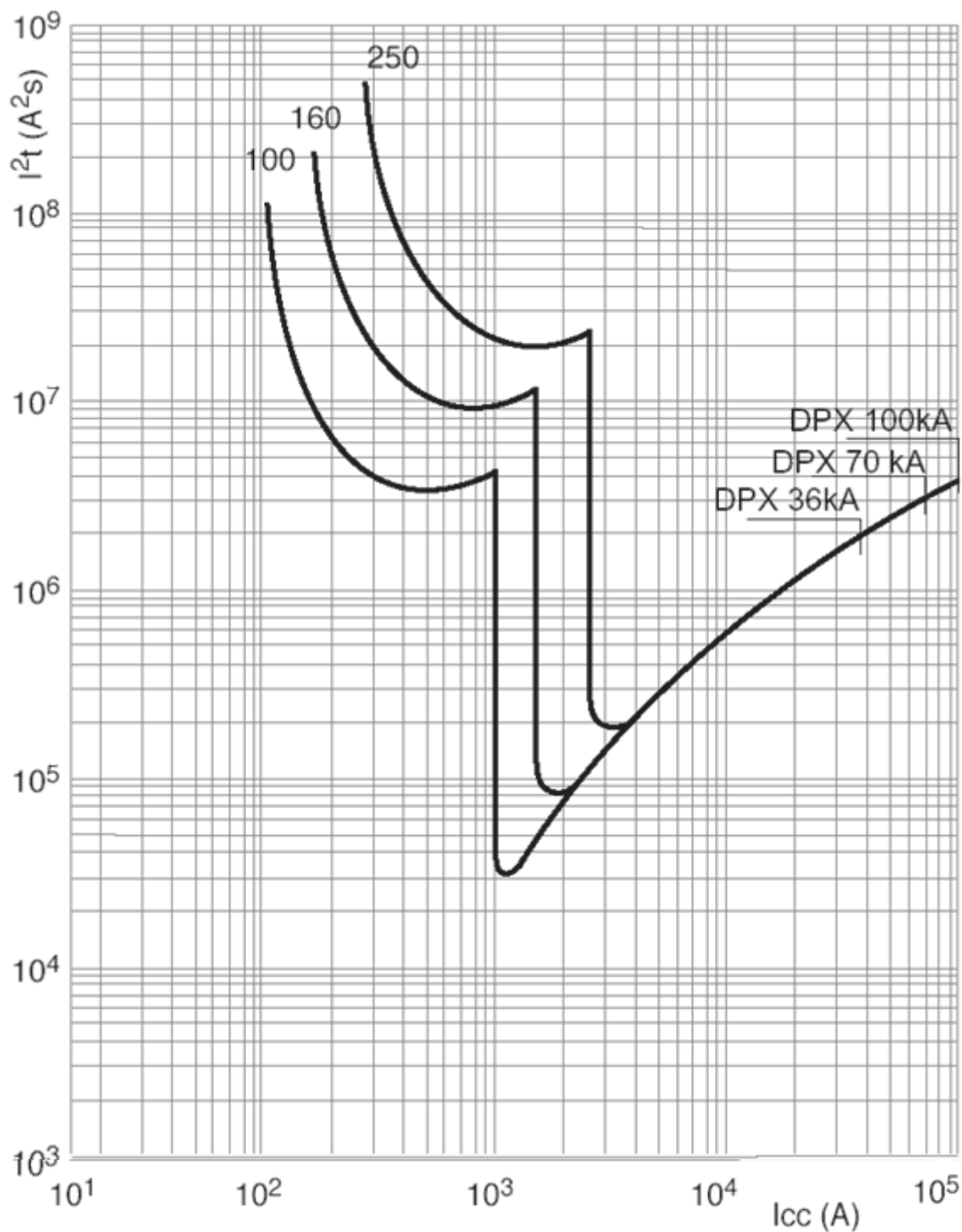
# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

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48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/  
82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

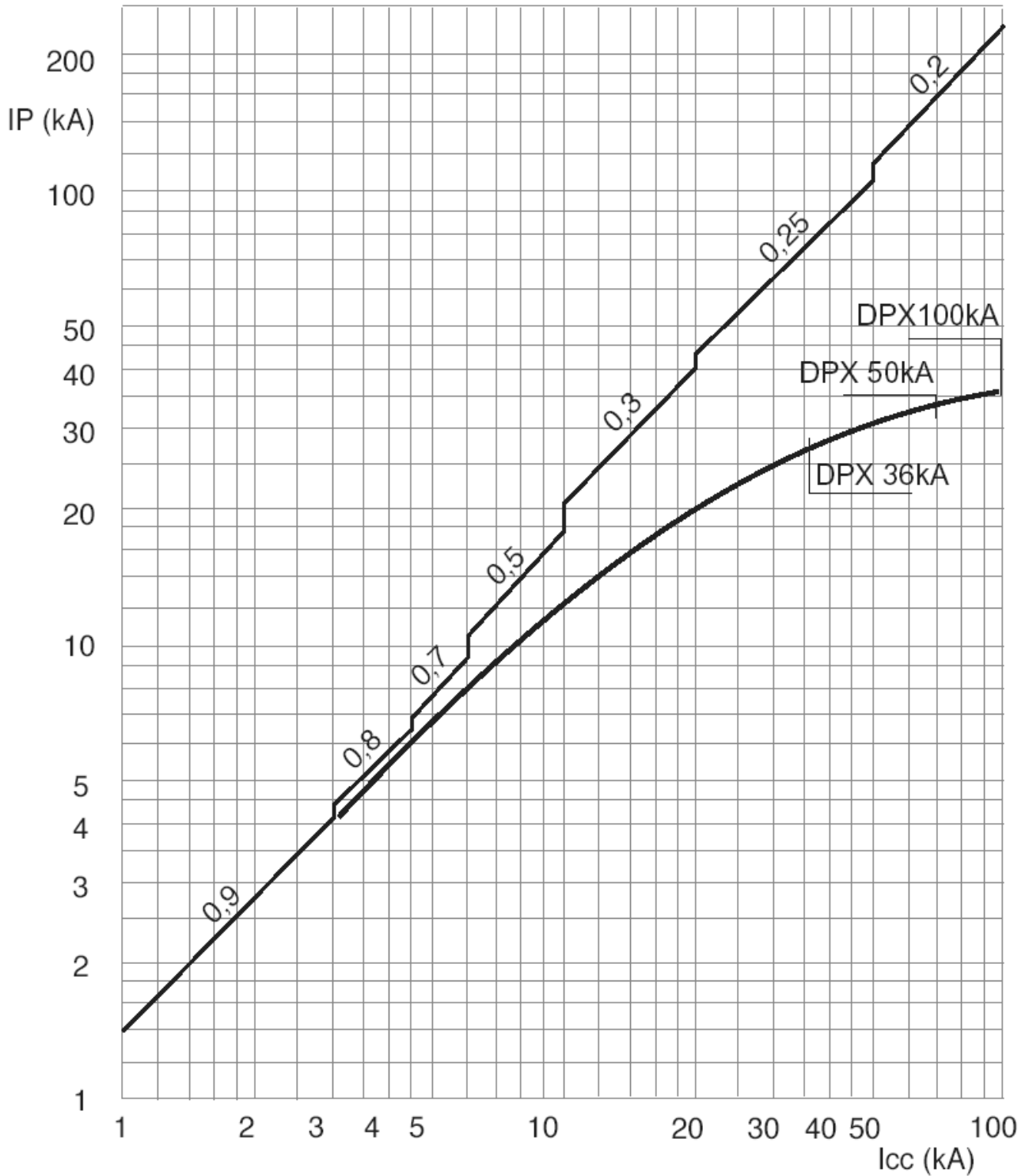
#### 9.2 Restricted curve in thermal constraint



**DPX 250**  
**Thermal magnetic and trip-free switches**  
**DPX-I 250**

Reference(s) : 253 27/ 28/ 29/ 30/ 31/ 32/ 40/ 41/ 42/ 44/ 45/ 46/ 47/  
 48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/  
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9.3 Restricted current curve





# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

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48/ 49/ 51/ 52/ 53/ 54/ 55/ 56/ 64/ 65/ 66/ 68/ 69/ 70/ 71/ 72/ 73/ 80/ 81/  
82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

#### A) Derating Temperature and configurations

		40°C		50°C		60°C		65°C	
		I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>
<b>DPX 250 fixed version thermal-magnetic</b>									
DPX 250	front	250	1	250	1	238	0,95	238	0,95
	rear	250	1	250	1	238	0,95	238	0,95
DPX 250 with earth leakage	front	250	1	238	0,95	225	0,9	225	0,9
	rear	250	1	238	0,95	225	0,9	225	0,9
<b>DPX 250 Plug-in / Draw-out version thermal-magnetic</b>									
DPX 250	front	238	0,95	225	0,9	203	0,81	190	0,76
	rear	238	0,95	225	0,9	203	0,81	190	0,76
DPX 250 with earth leakage	front	225	0,9	213	0,85	190	0,76	180	0,72
	rear	225	0,9	213	0,85	190	0,76	180	0,72

#### B) Connection

Connecting type	Bars Width (mm)	Cables		Standard lugs S - Ø (mm <sup>2</sup> -mm)	Compact copper S - Ø (mm <sup>2</sup> -mm)	Standard lugs S - Ø (mm <sup>2</sup> -mm)	Compact aluminium S - Ø (mm <sup>2</sup> -mm)
		Section (mm <sup>2</sup> ) rigid	flexible				
Direct plates	25			95-8	185-10		185-10
Cage terminals réf.262 35	18	185	150				
Extended front terminals réf. 262 32	25			150-12	300-10	240-12	300-10
Spreaders réf. 262 33/34	32			185-12	300-10	240-12	300-10
Distribution terminal réf.048 68			4 x 35 + 2 x 25				
Rear terminal réf. 263 31/32	25			185-12		240-12	
Flat rear terminal réf. 265 27/28	25			95-10	185-10	150-12	185-10
Front terminal mounting base réf. 265 31/32/37	20						
Rear terminal mounting base réf. 265 33/34/38		25	185-12			240-12	
Flat rear terminal mounting base réf. 265 35/36/39	25			95-10	185-10	150-12	185-10
DPX support bases réf. 098 25/26/27/28	20			2 x 95-8	2 x 195-10		2 x 185-10

#### C) Correct factor for adjustment for use in 400 Hz

In (A) to 50 Hz	Thermal adjustment		Im (A) at 50 Hz	Magnetic adjustment	
	Correction factor	I <sub>r</sub> max at 400 Hz		Correction factor	Im at 400 Hz
25	1	25	90÷250	2	180÷500
40	1	40	140÷400	2	2800÷800
63	0,95	60	220÷630	2	440÷1250
100	0,95	95	350÷1000	2	700÷2000
160	0,9	145	560÷1600	2	1120÷3200
250	0,85	210	900÷2500	2	1800÷5000

# DPX 250

## Thermal magnetic and trip-free switches

### DPX-I 250

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82/ 86/ 87/ 88/ 89/ 90/ 91/ 98/ 99

#### D) Breaking capacity in DC

Documento del 01-04-2011  
Rev.: 4

#### Short-circuit breaking capacity in D.C. current

Circuit breakers	Rated current	Breaking capacity $I_{cu}$ (kA)					Protection	
		1 pole in series	2 poles in series	2 poles in series	3 poles in series	3 poles in series	thermal	magnetic
		up to 55-60V	up to 110-125V	250V	400V	500V		
LEGRAND SERIES								
DPX 250	25-250A	40	40	36	40	36	like AC	1,5 Im AC
	100-250A	45	45	40	45	40	like AC	1,5 Im AC
DPX 250-H	25-250A	45	45	40	45	40	like AC	1,5 Im AC
	100-250A	50	50	45	50	45	like AC	1,5 Im AC
DPX 250-L	25-250A	50	50	45	50	45	like AC	1,5 Im AC